ABSTRACTS OF CURRENT LITERATURE

MEDICINE

SPASM OF THE CHEST MUSCLES, PARTICULARLY THE INTERCOSTALS, AS A PHYSICAL SIGN OF DISEASE OF THE LUNGS.

(F. M. Pottenger, *American Journal of Medical Sciences,* Vol. 137, No. 5.)

Muscular rigidity has long been recognized as a sign of disease of the abdominal viscera, varying in location as to the organ involved, but Pottenger was not able to find rigidity of the chest muscles mentioned as a physical sign of the inflammation of the lungs. Musser mentioned the fact that it occurred over pleuritis, but did not mention it concerning inflammation of the parenchyma of the lung.

He finds this rigidity to be a constant sign, especially with reference to the intercostal muscles. The greater the infiltration the greater the rigidity and greater over recent inflammations. There is a much greater resistance to examining fingers in inflammations of the lungs than of the pleura. The resistance is different to that felt over the liver or heart on palpitation. The rigidity manifests itself in all the muscles of the chest, but mostly in the intercostals, except at the apices, where the muscles covering the superior opening of the thorax are involved.

In some cases the sensory nerves are involved, hence we have hypersensitive areas. The systematic way of eliciting this rigidity is by beginning below and comparing the intercostal spaces of each side. This is best done by pressing the tips of the fingers in the spaces and moving sidewise, the fingers not being allowed to slip along on the skin. He finds, when the cavity is formed, the resistance disappears, but may be found in old chronic lesions. This muscular spasm also helps to explain the lagging of the chest wall in tuberculosis.

Muscular spasm can be found in every early case, if searched for, above the clavicle, above the spine of the scapula or in the first intercostal space. He has not been able to determine how long the rigidity lasts after the trouble has ceased, but knows it remains in some cases even for years and is probably due to fibrous changes in the muscles.

Physical examinations are often not carried out thoroughly, since by the aid of the microscope and tuberculin reactions we are able to diagnose the trouble, but physical examination should not be neglected, hence the value of this new sign.

O. N. B.

DIAGNOSIS OF GASTRIC ULCER AS TESTED BY OPERATION.

(J. N. Hall, M.D., *American Journal of Medical Sciences,* May, 1909.)

In a series of fifty cases of gastric, peptic and duodenal ulcer proved at operation, twenty-eight were males, twenty-two females. Twenty-one were in the fourth decade, twelve in the third, nine in the fifth, six in the sixth, two in the second. Twenty-eight of the ulcers were active, twenty-two were healed, but symptoms demanded operations from contractions, adhesions, etc. Eleven cases had had trouble for eighteen to thirty years, in five the ulcers were still active. Nine had existed ten to fifteen years, five for five to ten years, seven for three to five years, eight for two years, and ten for one year or less. Thirty-three ulcers were (or had been) pyloric, of these eighteen were still active, thirteen were gastric, and four duodenal. The stomach was dilated in thirty, fourteen being from active ulcers and sixteen from scars. Dilatation was present in but one of the four duodenal ulcers. Splashing was present in twenty-six of the dilated stomachs.

Sixty-six per cent. had vomiting, thirty-four per cent. had had hemetemesis, eight per cent. melana, eighty per cent. sour stomach, eighty-two per cent. had pain; seventy per cent. tenderness, sixty per cent. muscular rigidity in region of stomach upon examination. Seventy-four per cent. had lost weight from ten to fifty-five pounds.

Chemical analysis of stomach contents was obtained in thirty-six cases. In sixteen cases of active gastric and pyloric ulcer examined, twelve had high acidity, four were below normal. In seventeen cases of healed ulcer, examined chemically, fifteen were below normal in acidity. In the two cases of duodenal ulcer examined one had low acidity, the other hyperacidity. Tenderness over the lower ribs and great hyperesthesia over the ulcer, was noted in several. Rigidity is often present, not as a result of active ulcer alone, but also from adhesions around healed ulcers.

In one the scar was adherent to the liver, another to the pancreas, three to the gall bladder, one had an hour-glass distortion from scar, chronic pancreatitis was present in one, three had complete perforation, one incomplete, and one had large cancer near base of the scar.

All were treated by gastro-enterostomy but five, of which Finney's operation was done in two. There were six fatalities.

Of the remaining forty-four cases, thirty-two are cured, ten much relieved, one with dilated atonic stomach is worse, and the one with cancer remains as before. Patients with stomachs dilated beyond hope of regaining motor power, generally fail to improve, especially if neurasthenic.

Several cases of pyloric ulcer had been operated on for gall stones or appendicitis, this is more common in duodenal than in gastric ulcer. Dilatation of the stomach may come from spasm of pylorus, from the irritation of an ulcer in that region as well as from mechanical obstruction. Should not be misled by presence of enlarged lymp-nodes with associated thickening around pylorus; has seen them disappear with healing of ulcer.

In diagnosis of gastric ulcer we should not look on it as comparatively rare, instead of a common one; we should not look for such a classical history, especially of vomiting and hemetemesis, with a high acidity report from the laboratory; we should not overshadow the physical findings with the chemical, which is extremely variable, for after the chronic gastritis is set up, dilatation occurs, or the patient becomes anemic, the hyperchlohydria disappears. We should lean to the side of ulcer, and if the patient complains of persistent indigestion, pain, tenderness, vomiting and rigidity, or two or three of the phenomena, even if hyperacidity not be present, we should suspect ulcer.

He believes ulcer of the stomach is more common than we think: a scar is often found blocking the pylorus, in which there has been no symptoms of ulcer: ulcer is probably present in the majority of persistent sour stomachs. Tenderness and rigidity over the stomach in this class of cases should clinch the diagnosis except in certain neurotics. A markedly dilated stomach in a young patient, not especially neurasthenic, should suggest pyloric ulcer or result, if there have been any symptoms of indigestion in the past: that no neurasthenic should be treated without investigating the size and digestive ability of stomach: that patients not relieved promptly by medical treatment should be studied carefully from a surgical standpoint: that the bedside examination be given more weight than the laboratory: and that a diagnosis of gastric ulcer can be made almost certain by careful investigation.

A. S. D.

SURGICAL ANEMIA AND RESUSCITATION.

(By Geo. W. Crile, M.D., in *American Journal of the Medical Sciences,* April, 1909.)

In the vegetable and animal kingdoms functional activity and growth require an almost constant supply of food; otherwise, impairment or loss of function must follow. Neither individuals as a whole nor the various organs and histological elements respond equally to a diminished or a complete loss of food. Death, therefore, falls unevenly upon various tissues and organs. Definite death signifies final extinction of the vital spark; relative death means suspended animation, and is susceptible of reanimation by supplying the required nourishment, the condition being due to loss of its complex food supply. This impoverishment is designated anemia.

Surgical anemia may be due to hemorrhage, shock, or segregation of the blood, or to mechanical obstruction. The results, whether partial or complete, local or general, depend on the resistance of tissues involved. An organ may cease to functionate while its cells still survive, and some functions of cells remain while others are lost. Then, how long may anemia of various organs exist and be resuscitated? And how can this be best accomplished? The skin may be removed and grow again after weeks. Rigor mortis of voluntary muscles begins after about twelve hours. Bones endure a longer period, and nerves degenerate more quickly than muscles. The kidney may survive a total anemia for more than an hour, and the intestines for six or seven hours. The heart has beat rhythmically after preservation for forty-four hours. Blood vessels endure weeks, while parts of the central nervous system vary greatly.

Resuscitation refers to the body, an organ, or a tissue. In local anemia from mechanical pressure or injury ordinary measures are used. In occlusion of supplying vessels anastomosis and heteroplastic transplantation of blood vessels are employed. In anemia from shock or hemorrhage direct transfusion of blood are recommended. Transplantation of organs, especially viscera, is discussed, also the dire and swift results of complete anemia of the central nervous system. Partial and local anemia of the brain and cord are often amenable to treatment. Simultaneous closure of both common carotids has been done by Crile, but was accompanied by unmistakable signs of danger. Atheroma increases this danger.

Where sitting posture is necessary after operation, the consequent cerebral anemia may be overcome by the pneumatic rubber suit. Increased intracranial tension and its causes need physiological interpretation. The rigid skull, though a protector from external violence, increases the consequent anemia. Hence, nature's curative effort is the displacement of cerebro-spinal fluid and an increased general blood pressure. The symptoms of compression are analyzed according to the degree of pressure. Surgical approach must be physiological; the circulation is not to be depressed, but should be supported. Decompression must be done with the least possible hemorrhage and shock.

Discussing resuscitation of the body as a whole, experiments on the excised heart show that resuscitation of this organ depends on pressure in the coronary arteries. This is obtained by plain infusion combined with cardiac massage. Adrenalin is an adjunct only if injected into the arterial system near the heart so that the effect is transmitted directly to the coronaries. If injected into the veins